

To the power of eight

A fast CD-Rom drive connected to the computer's IDE interface has become the norm on new PCs. So, for those of you thinking of upgrading, we evaluate eight of the eight-speed contenders, and some of the alternatives available

Having a CD-ROM drive – especially an 8-speed one, like those reviewed here – is no longer a luxury. These days, most new software comes only on CD, and the high-quality multimedia reference and entertainment titles now available for all the family add greatly to the fun of using a PC.

Fortunately, it's a buyers' market for CD-ROM drives, as manufacturers leap-frog each other to reduce prices. All the drives in this review use what is called the IDE/Atapi interface (see this month's Computer Class) as a cheap and simple way of connecting a drive to a host computer.

The adoption of this standard and the fact that virtually all new PCs now come equipped for CD-ROM multimedia, means that drive makers are achieving huge economies of scale and can afford to compete on price to attract upgraders to their products.

As a result, slower drives (two, four and six speed) are now being sold off at bargain prices, but as eight-speed drives are likely to remain the standard for some time it's worth forking out a bit more for one of these, especially if you've got a Pentium PC.

Aztech Zeta 8x

This drive was not one of the top performers, having slow average

access times and making heavy demands on the computer's processor. Having said this, it managed the 1.2Mb data transfer rate expected of this type of drive and shouldn't be dismissed out of hand.

One reason to consider the Aztech is that it features two-button controls on the front panel, so you can select tracks on audio CDs without having to use software. Another is the low price.

It's supplied with fixing screws, an audio cable, a driver disk and not one, but two manuals. There's a brief getting started guide and a more detailed user guide with instructions on installing the supplied drivers for Windows 3.1, but no mention of Windows 95 – and no UK telephone support numbers. All

the sockets are clearly labelled and the Aztech has the distinction of being the quietest drive we tested.

If your main criterion for choosing a drive is price, then the Aztech is worth buying, despite its indifferent performance.

○ £94.95 (street price)
○ Aztech: 01734 820840

Aztech Zeta 8x

Performance	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Creative CD820E

This comes with the most comprehensive set of accessories and instructions: an audio cable and fitting screws are supplied, and this was the only package to include an IDE data cable. The stylish front panel is equipped with twin-button track-selection controls.

Two manuals are provided: one gets you started and the other goes into detail about the drive's features. Full installation instructions are provided for Windows 3.1 and Windows 95, including information about fitting further IDE drives. As well as essential driver files, the installation disk contains utilities for playing audio CDs and locking or ejecting the disc tray.

There's a troubleshooting guide and, if you do get stuck, a UK



helpline and a faxback service.

Once you've got the drive installed, you can test it by using the free CD of Grolier's Multimedia Encyclopaedia. It should work fine because the Creative drive is a good performer with a high data transfer rate, even if its average access time is not among the highest.

Absolutely everything you need is supplied in one box and the documentation and support are first-rate. Not the cheapest drive on test, but probably the best-value retail package.

○ £119.99
○ Creative: 01245 265265

Creative CD820E

Performance	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Goldstar GCD-R580B

Goldstar's GCD-R580B easily meets the 1.2Mb data transfer target and has one of the better average access times. Like all the other Atapi IDE drives we tested it uses a tray-loading



mechanism, which in this case is exceptionally deep, probably because the drive can be mounted vertically with the CDs being retained by four clips.

Twin control buttons for audio CD playback are provided.

The manual is very good indeed and tells you everything you need to know to get the drive up and running under any version of Windows. Fixing screws and an audio cable are provided and the driver disk also includes utilities for ejecting, closing and locking the drive.

The only customer support numbers are in the US, so it's a good job the installation was trouble-free. The rear sockets are labelled with legends stamped into the metal, but these are all but invisible in the shady recesses of a PC.

A good compromise between price and performance and, if you're looking for a vertically-mounted drive, you should go for it.

○ £116.33
○ Goldstar: 01753 500400

Goldstar GCD-R580B

Performance	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Hitachi CDR-7930

Even though Hitachi drives are available to the public through distributors, Hitachi makes them primarily for manufacturers to build into their PCs. For this reason the CDR-7930 we looked at came with very little in the box other than a bare drive and a floppy disk. Hitachi assumes that its customers know how to fit a drive and can supply their own screws and cables.

If you can cope with supplying the missing bits and pieces yourself, and don't mind working from a double-sided A4 sheet of instructions, you will end up with a very capable drive, offering better-than-average access speeds and a good data transfer rate.

The drive has no audio track selector buttons and can't be mounted vertically. This tray-loading drive claims dust-free



construction, but anybody who designs a CD drive that doesn't keep out dust is asking for trouble.

A good performer without frills, the Hitachi is worth considering. It depends how confident you are about fitting a new drive, and how cheap you can find one.

○ £129.25
○ Hitachi: 01628 585000

Hitachi CDR-7930

Performance	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Mitsumi FX810

The Mitsumi FX810 is one of only two in the test to claim MPC 3 compatibility, which is not to say that the others don't meet this standard, simply that they don't claim it.

The drive is supplied with an audio connector cable, driver disk, mounting screws and a manual that fully covers installation under Dos, Windows 3.1 and Windows 95. There was also an America On-Line trial CD and floppy in the box, inexplicably intended for the German market.

There are no audio track selector buttons, but the performance was good. Also, the drive can be mounted vertically, provided it is left-aligned, and we installed it in this fashion without problems.

All the sockets on the back are clearly labelled. For help with installation and operation there's a telephone hotline open between 10am and 7pm and a glossary of technical terms at the back of the manual.

No audio playback controls, but a good all-rounder and the cheapest drive suitable for vertical mounting.

○ £104.58 (street price)
○ Mitsumi: 01276 671029





Mitsumi FX810

Performance	★★★★★
Ease of use	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★

Samsung SCR-830

Samsung's SCR-830 drive is one of the most stylish in the review. Also, it easily managed the 1.2Mb per second data transfer rate one would expect from this type of drive and average access time was very good. However, it does make heavy demands on the PC's processor time.

The manual is clearly illustrated and points out the master and slave jumpers, though it neglects to tell you why you might need to change them. Neither does it tell you about the difference between installing the drive under Windows 3.1 and Windows 95.

The drive is supplied with a driver disk and an audio cable, but no fixing screws. There's a troubleshooting guide but no hotline support, users being told to contact their Samsung representative instead.

At its price, the Samsung can be beaten on performance by Teac's drive. The Samsung's

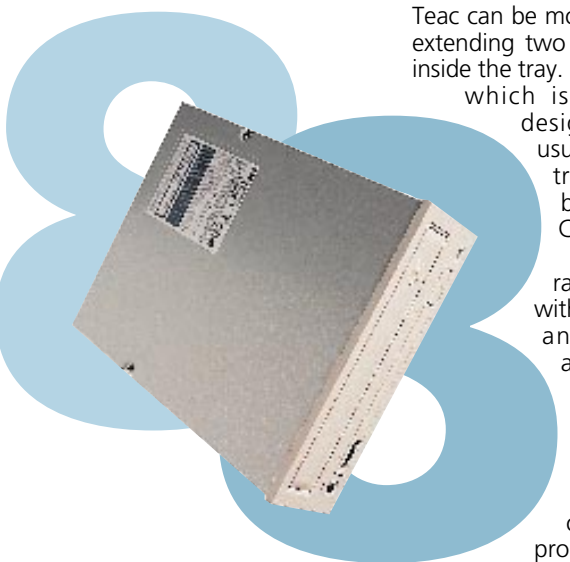


strengths are its looks and better documentation.

- £151.58 (street price)
- Samsung: 0181 391 0168

Samsung SCR-830

Performance	★★★★★
Ease of use	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★



Teac CD-58E-002

Although Teac's CD-58E drive is made for equipment manufacturers to fit into new PCs, you can buy one through a distributor. The performance of this drive is the best of all those tested, but it comes without accessories apart from a driver disk.

In lieu of a user manual there's a booklet of technical specifications, which includes fitting instructions but not driver installation. The Teac can be mounted vertically by extending two disc-retaining tabs inside the tray. On the front panel, which is professional in design, there are the usual lights and controls, including two buttons for audio CD track selection.

The data transfer rate of this drive is up with the best of them and the average access time is very fast. In spite of this, the Teac also scores well in terms of not tying up an inordinate amount of the computer's processing time.

Non-IDE options

Chase DISQ: This is a double-speed CD-ROM that attaches to a notebook PC via a Type II PCMCIA card. The unit is the size of a chunky portable audio CD player and can be used as such by fitting four AA batteries, but when it is being used as a CD-ROM drive, power can be drawn from the host computer or from an external power pack (not supplied). It features a comprehensive set of audio playback controls, but headphones are not supplied.



Being a double-speed drive, performance is far from exciting, but it just meets the MPC2 specification of 300Kbps data transfer, albeit with very slow average access times. A six-speed version at £468.83 will be available by the time you read this. *Chase: 01274 841 352*

NEC CDR-512: An internally-mounted Scsi drive, this is rated as a six-speed, but its performance is almost as good as the eight-speed drives because of its very low CPU drain. It's the only drive we looked at to use a caddy-loading system instead of a tray. Caddies protect the discs they contain but add significantly to the cost of the drive if you choose to buy a separate one for each of your CD-Roms. A SCSI card is not supplied and it's not worth fitting one just for the purpose of controlling the CD-ROM drive. However, if you need the advantages of SCSI (to fit multiple CD-ROM drives and other devices to a single PC) this is a good, if expensive, buy. *NEC: 0181 993 8111*

Sony CD-ROM Discman: This drive is as stylish as Sony's other audio Discman players, but it can also double as a quad-speed CD-ROM drive for any notebook PC with 4Mb of Ram and a Type II PCMCIA slot. A full set of accessories is supplied as standard, including stereo headphones, a mains adaptor, a clip-on battery tray for alkaline batteries and a rechargeable Lithium Ion battery that powers the unit for six hours as an audio player or two hours as a CD-ROM drive.

There are utilities for playing audio CDs, viewing Photo-CDs and managing the PCMCIA SCSI card. Switches on the base of the drive itself permit it to be set as SCSI device 3 or 5. The Discman's performance is good for a quad-speed drive and is perfectly acceptable for running multimedia titles, as well as for installing software supplied on CD-Roms. *Sony: 01932 816000*



Eight-speed CD-ROM drives							
	Speed	Type	Track selection	Vertical mounting	Data transfer	Average access	CPU efficiency
Aztech Zeta 8x	8	IDE/Atapi	●	○	1226	293	poor
Creative CD820E	8	IDE/Atapi	●	○	1245	233	average
Goldstar GCD-R580B	8	IDE/Atapi	●	●	1236	190	average
Hitachi CDR-7930	8	IDE/Atapi	○	○	1239	174	average
Mitsumi FX810	8	IDE/Atapi	○	●	1238	178	average
Samsung SCR-830	8	IDE/Atapi	●	○	1236	158	poor
Teac CD-58E-002	8	IDE/Atapi	●	●	1237	138	average
Wearnes CDD-820	8	IDE/Atapi	●	○	1245	230	average
Chase DISQ	2	PCMCIA	●	n/a	300	380	average
NEC CDR-512	6	SCSI	○	●	928	376	good
Sony Discman	4	PCMCIA	●	n/a	619	248	average

Data transfer: higher = better (this measures how many kilobytes of data the drive can read off the CD each second). Average access: lower = better (the time in milliseconds to locate the start of a piece of data). CPU efficiency: indicates how much strain the CD-ROM drive puts on the processor in the computer.

If speed and features are what you're after, the Teac drive is the best of those tested. Bad points are the price, sparse documentation and lack of accessories.

- £151.58 (street price)
- Teac: 01923 225235

Teac CD-58E-002

Performance	★★★★★
Ease of use	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★

Wearnes CDD-820

The Wearnes CDD-820 comes with a slim manual that assumes you are confident about opening up your computer and tinkering with Dos and Windows. It contains just three pages in English and there is no telephone support number.

The Wearnes performs pretty well, though it's not as fast as some of the other drives we tested. Twin controls are provided on the front panel for audio playback and track selection, though the manual does



not tell you how they work. The drive comes with mounting screws, an audio cable and a driver disk for Windows 3.1. No mention is made of Windows 95 and the troubleshooting section is not very helpful, being confined to describing how to edit your system files.

The front panel is clean and

functional and all the connectors at the back are identified by clear labels punched into the metal of the chassis.

The Wearnes is a competent drive with no significant strengths or weaknesses. The main reason for choosing it is the low price.

- £99.00
- Wearnes: 01256 333570

Wearnes CDD-820

Performance	★★★★★
Ease of use	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★



Performance figures don't tell the whole story because any eight-speed IDE drive will satisfy the requirements for playing multimedia titles and quickly installing software supplied on CD-ROMs. The Teac CD-58E wins hands-down in terms of speed (but it's expensive) and the cheapest drive, the Aztech Zeta 8x, is one of the poorer performers. We're awarding the best buy to Creative Labs for the CD820E, which offers the best documentation and support, the most complete bundle of accessories and a bonus CD-ROM encyclopaedia.



If you decide that you don't want a free CD-ROM encyclopaedia or you need a drive you can mount vertically, we recommend the Goldstar GCD-R580B for the best balance between price, performance and features.

Paul Wardley

CD-ROM standards

All eight IDE drives in this review can handle the different types of CD-ROM disc currently available for the PC and they can all be used to play ordinary audio CDs and to view photographs supplied in Kodak's Photo-CD format.

Having said this, to use some types of CD-ROM you need extra software or hardware. The main example of this is the Video-CD or MPEG format, used to display full-screen video for films and games: it requires an MPEG playback card or a software-based MPEG player to be fitted to the PC.

A new CD format called DVD is on the horizon and this will require a special type of CD drive to handle the high-capacity CDs it will use. None of the drives reviewed here will be able to handle DVD discs, the first of which will contain up to seven times the data of a standard CD. By the end of next year advanced DVD drives will be able to play double-sided disks of up to 17Gb, which is the equivalent of twenty-six CD-ROM discs.

You should not let the advent of DVD discourage you from buying a CD-ROM drive now. DVD drives will be very expensive for the first couple of years. Yes, they will almost certainly replace standard CD-ROM drives in the future, but by then you'll be needing a new PC anyway.

